USSR

UDC 621.314.61 (088.8)

PRIVALOV, A.I., OSOKIN, YE. I., PRIKHOD'KO, A. YA., DAVIDOV, P.D., LASAREV, I.A., TSYPLYAYEV, M.S., ALEKSANDROV, I.V., SHARIPO, V.I.

"Multiphase Rectifier Using Controlled [Semiconductor] Rectifiers"

USSR Author's Certificate No 262250, filed 29 Nov 66, published 29 June 70 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2B576P)

Translation: A circuit is proposed for control of a 3-phase bridge semicontrolled rectifier [vypryamitel']. The control circuit contains an auxiliary bridge noncontrolled rectifier, a relaxation oscillator for triple frequency using a dynistor, 3 auxiliary thyristors, and 3 output pulse transformers. The relaxation oscillator supplies pulses to the gates of the auxiliary thyristors. The anodes of these thyristors are connected with the primary windings of the pulse transformers. The second terminals of these windings are switched in to phases of the voltage for inherent [sobstvennyy] needs, from which is also supplied the noncontrolled bridge rectifier of the relaxation oscillator. The cathodes of the auxiliary thyristors are connected at a common point and are connected across a resistor to the negative terminal of the noncontrolled 3-phase rectifier. The secondary windings of the pulse transformers are connected with the gates of the power thyristors. 1 ill.
L.R.
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OSOKIN YU. A.

GYROS

CAROL

SO: JPRS 60530
14 Nov 73

(2)

GYROS

UDC 531.383

DRIFT MOMENTS IN MAGNETIC SUSPENSIONS OF GYROSCOPIC INSTRUMENTS

[Article by Yu. A. Osokin and N. N. Stankevich, Moscow Higher Technical School imeni N. E. Bauman; Leningrad, Izvestiya VUZ Priborostroyeniye, Russian, No 7, 1973, submitted 26 October 1972, pp 73-76]

Questions connected with moments of stress in magnetic suspensions caused by geometric imprecisions in the manufacture of the rotor are examined. The moments of stress are analyzed for a rotor of arbitrary form.

Magnetic suspensions used to completely exclude mechanical contact in the supports of precision gyroscopic instruments must have exceptionally small drift moments. Only in that case can their use give a substantial improvement in the quality of the entire instrument. Experimental investigations have shown that the drift moments of magnetic suspensions have two components: 1) moments due to error in the form of the rotor occurring during manufacture and 2) so-called hysteresis moments, caused by the presence of a hysteresis loop in the material of the rotor.

The present level of development of technology permits in most cases reducing those two components to the allowable limit. However, the requirements for the technology of manufacture of magnetic suspensions usually prove to be high. And so the task arises of working out rational requirements for the manufacturing technology which can be readily fulfilled, on the one hand, and permit obtaining the necessary precision of the instrument, on the other.

In this article an investigation is made of the moments caused by geometric errors in the manufacture of a cylindrical rotor, such as occurs, for example, in floating gyroscopic instruments. Let us examine, for example, a quadrupole magnetic suspension (see the bibliography) (Figure 1) under the following assumptions.

USSR

UDC 531.383

OSOKIN, YU. A., PESTUNOV, A. YU., (Kiev Polytechnic Institute)

"Concerning the Astatic Gyroscope Systematic Drift About a Gimbal Outer Frame Axis in the Presence of Angular Base Oscillation"

Leningrad, Izvestiya Vysshikh Uchebnykh Zavedeniy, Priborostroyeniye, Vol 14, No 9, 1971, pp 83-88

Abstract: Systematical drift of an astatic gyroscope about a gimbal outer frame axis in the presence of random and harmonic angular base oscillations about three rectangular coordinate axis is considered. Simple formulas for determining the systematic drift $\langle \alpha \rangle$ of an astatic gyroscope in the presence of the base correlated angular oscillations and vibrations about three rectangular axis are derived. Their analysis shows that in the design and tests of an astatic gyroscope, the method of equivalent harmonic oscillations, consisting of substituting a harmonic process of the same rate ($\sigma_q^2 = \delta_q^2/2$) for the random process can be used, when the predominant frequencies of random process resolution spectrum are far off the gyroscope natural vibrations frequencies. The harmonic oscillations

1/2

USSR

OSOKIN, YU. A., and PESTUNOV, A. YU., Izvestiya Vysshikh Uchebnykh Zavedeniy, Priborostroyeniye, Vol 14, No 9, 1971, pp 83-88

frequency is selected equal to a predominant random process frequency. In transition to equivalent harmonic oscillations in the case of correlated base oscillations about the three rectangular axes the phase dirft between components is equal to $\nu\theta$ and ν is the variation frequency or a reciprocal correlated function, and θ - is the displacement of the reciprocal correlated function with respect to ordinate axis.

2/2

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--MECHANISM AND KINETICS OF ISOHEXENE DIMERIZATION ON AN ALUMINOSILICATE CATALYST -U-

AUTHOR-(03)-OSOKIN, YU.G., KRYUKOV, S.I., FELOBLYUM, V.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 691-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HEXENE, DIMERIZATION, CHEMICAL KINETICS, ALUMINUM SILICATE, ACTIVATION ENERGY, CHEMICAL REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1959 STEP NO--UR/0366/70/006/004/0691/0698

CIRC ACCESSION NO--AP0125548

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125548
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIMERIZATION OF THE THERMODYNAMIC EQUIL. MIXT. OF H SUB2 C:CMEPR (I) WITH ME SUB2 C:CHET (II) IN THE PRESENCE OF ALUMINOSILICATE CATALYSTS IS A 2ND ORDER REACTION WITH 15.9 KCAL-MOLE ACTIVATION ENERGY. THE FOLLOWING ISOMERIC C SUB12 ALKENES ARE FORMED: PRCME SUB2 CH SUB2 CI;CH SUB2IPR, PRCME SUB2 CH SUB2 CME:CHET, PRCME SUB2 CH:CMEPR, PRCME SUB2 CHETCME:CH SUB2, AND PRCME SUB2 CET:CME SUB2. THE DIMERIZATION MECHANISM INVOLVES THE ADDNS. OF ME SUB2 C PRIME POSITIVE PR TO I OR II; I REACTS ABOUT 5 TIMES AS FAST AS II IN THIS ADDN. REACTION. FACILITY: YAROSLAV. TEKHNOL. INST., YAROSLAVL, USSR.

UNCLASSIFIED

USSR

UDC 543.77

FEDOROVA, M. N., KRIVODUBSKAYA, K. S., OSOKINA, G. N., and KOSTOUSOVA, T. I. Fazovyy Khimicheskiy Analiz Rud Chernykh Metallov i Produktov ikh Pererabotki (Phase Chemical Analysis of Ores of Ferrous Metals and Products of Their Treatment) "Nedra" Publishing House, Moscow, 1972, 160 pp

Translation of Foreword Annotation: The further development of ferrous metallurgy requires an ever increasing amount of high-quality ores. Therefore, the dressing of ores for metallurgical treatment is of great importance. More sophisticated technological schemes of ore benefication for assuming complete and complex extraction of valuable ore components should be developed in the coming years.

In order to correctly evaluate the industrial properties of ores being processed, a thorough and detailed study of their compositions is required, especially, a determination of the quantitative ratio of different mineral forms of elements composing them. Phase analysis, which along with other methods has found wide application in various branches of science and technology, is of importance in the compositional study of minerals.

The phase analysis method for non-ferrous and trace elements is the most highly developed (Dolivo-Dobrovol'skiy, Klimenko, 1947; Filippova, 1964; Khristoforov, 1964, 1965). The literature regarding the methods of phase analysis of ores of ferrous metals is represented only by a few journal articles and several manuscripts.

1/6

USSR

FEDOROVA, M. N., et al., Fazovyy Khimicheskiy Analiz Rud Chernykh Metallov i Produktov ikh Pererabotki, "Nedra" Publishing House, 1972, 160 pp

The methods of phase analysis for iron, manganese, and chromium ores that are mentioned in the monograph of V. V. Dolivo-Dobrovol'skiy and Yu. V. Klimenko have not been developed very far. Presently they do not satisfy the high standards set up by concentration plants with respect to the elemental composition of ferrous ores. It should be noted that neither the domestic nor the foreign literature provides sufficiently complete manuals for the phase analysis of ferrous ores. Thus, it was thought expedient to generalize the works done in this field.

The present work systematizes the experience accumulated by many scientific research institutes (Uralmekhanobr, Mekhanobr, Mekhanobrchermet) and tested at industrial plants in the Ural, Kazakhstan, Central, and Southern regions of the USSR for many years. Most of the methods presented were developed, tested, and perfected by the authors of this book.

The book describes the methods of phase analysis of different types of iron, manganese, titanium, and chromium ores, as well as beneficiation products and pelletized products prepared from iron concentrates. In some cases a detailed description is given of individual methods. This material can be useful for the evaluation of the ore analysis results, and in individual cases,

USSR

FEDOROVA, M. N., et al., Fazovyy Khimicheskiy Analiz Rud Chernykh Metallov i Produktov ikh Pererabotki, "Nedra" Publishing House, 1972, 160 pp

where data are available for comparison, it can be of help in selecting a more rational direction for future studies.

The authors will gratefully accept any comments regarding the application of methods given in this book to various ores, suggestions regarding modifications, improvements, and simplification of these methods, and reports of the development of new methods at various laboratories.

The authors thank Senior Scientist F. K. SOLOMONOVA for valuable comments and for the mineralogical analysis of ores during the development of the phase analysis methods. The authors are also grateful to Candidate of Technical Sciences N. N. MASLENITSKIY, YE. T. KARAPETYAN, Doctor of Technical Sciences V. V. DOLIVO-DOBROVOL'SKIY, Doctor of Chemical Sciences N. A. FILIPPOVA, and senior scientists R. S. MIL'NER, A. G. LYASHENKO, I. G. GULEVITSKAYA and F. YE. MERLINA who gave us much valuable advice in examining the manuscript and gratefully helped us in the preparation of the manuscript for publication.

Translation of Table of Contents:

3/6

USSR

FEDOROVA, M. N., et al., Fazovyy Khimicheskiy Analiz Rud Chernykh Metallov i Produktov ikh Pererabotki, "Nedra" Publishing House, 1972, 160 pp

4/6

USSR

FEDOROVA, M. N., et al., Fazovyy Khimicheskiy Analiz Rud Chernykh Metallov i Produktov ikh Pererabotki, "Nedra" Publishing House, 1972, 160 pp

5/6

USSR

FEDOROVA, M. N., et al., Fazovyy Khimicheskiy Analiz Rud Chernykh Metallov i Produktov ikh Pererabotki, "Nedra" Publishing House, 1972, 160 pp

Acc. Nr: AP0051955 Ref. Code: UR0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 3 , pp 259-263

COMPARATIVE EVALUATION OF CERTAIN METHODS FOR PRIMARY SCREENING OF ANTITUMOR ANTIBIOTICS IN VITRO

S. M. Rudaya, V. A. Semenova, L. I. Osokina, S. M. Navashin

National Institute for Antibiotics, Moscow

Sensitivity levels of 3 in vitro tests (a mutant of Staphylococcus UV-3, antidehydrase activity of mouse tumor cells, cytotoxic effect in tussue culture) were studied comparatively, using 120 culture fluids of actinomycetes. The cytotoxic test was the most sensitive. The culture fluids selected according to this test in most cases inhibited at high dilutions the development of mouse experimental tumors. Antitumor activity was most often observed among actinomycetes belonging to series helvolus, chromogenes, griseus, lavendulae-roseus.

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REEL/FRAME
19820442

2

1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--ISOTOPIC EFFECTS IN PHOTONUCLEAR REACTIONS -U-

AUTHOR-(02)-OSOKINA, R.M., YADROVSKIY, YE.L.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSR, SER. FIZ. 1970, 34(1), 182-9

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHOTONUCLEAR REACTION, NUCLEAR SHELL MODEL, TIN ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0282 STEP NO--UR/0048/70/034/001/0182/0189

CIRC ACCESSION NO--AP0105356

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 014

CIRC ACCESSION NO--AP0105356

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SHELL MODEL ANAL. OF EXPTL. DATA ON THE PHOTODISINTEGRATION OF SN ISOTOPES (PRIME114 SN, PRIME118 SN, PRIME120 SN, PRIME122 SN, AND PRIME124 SN) HAS MADE. FACILITY: VSES. NAUCH.-ISSLED. INST. YAD. GEOFIX. GEOKHIM., USSR.

UNCLASSIFIED

USSR

UDC: 621.791.011:620.192.4.001.2:669.015.14:669.721

RYAZANTSEV, V. I., Candidate of Technical Sciences, SMIRNOVA, YE. I., Engineer, and OSOKINA, T. N., Engineer

"The Effect of Alloying and the Purity of the Magnesium Alloy of the Mg-Zn-Zr-Rare Earth Metal System on the Tendency Towards Hot Crack Formation"

Moscow, Svarochnoye Proizvodstvo, No 5, May 73, pp 28-30

Abstract: The authors show that alloys of the Mg-Zn-Zr-rare earth metal system with a content of 1.0-1.6 percent Zn, 0.04-0.1 percent Zr, 0.16-0.3 percent rare earth metal and with an admixture of Fe, Cu, Si, Ni, Al in quantities of 0.01-0.03 percent have a low resistance to hot crack formation (critical deformation rate of 0.5-0.75mm/minute). This significantly limits the possibility of their use in complexly shaped welded structures. Varying the Zn content from 1.0 to 16 percent in the basic metal and introducing Mn do not have a significant effect on the rate of critical deformation during welding. Resistance to hot crack formation can be significantly increased by reducing Ce content 2-3 times and the admixture (Fe, Ni, Cu, Si, and Al) 2-4 times. The critical rate of deformation under these conditions is increased 2.5-3.5 times and reaches 1.8-1.9 mm/minute.

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Welding

UDC 621.791.052:678-1:669.017.1.74

USSR

RYAZANTSEV, V. I., PUGACHEV, A. I., SMIRNOVA, Ye. I., BLYABLIN, A. A., KUDISHINA, T. A., and OSOKINA, T. N.

"Chemical Microheterogeneity of Welded Joints of VMD8 Magnesium Alloy"

Moscow, Svarochnoye Proizvodstvo , No 10, Oct 72, pp 8-10.

Abstract: The mechanism of formation of microchemical heterogeneity of VMD8 alloy welded joints through the cross section is studied as a function of the chemical composition of the welding wire. It is shown that the degree of microchemical heterogeneity and the nature of its placement have a decisive influence on the hot shortness of the joint metal. Microchemical heterogeneity in the fusion zone and in the near-seam zone arises as a result of diffusion redistribution of elements from the seam into the surrounding zone (Ce for 5-8 wire) and from the surrounding zone into the seam (Zn for type 5-7 wire), as well as diffusion enrichment of melted boundaries with such elements as Ce and impoverishment of the grain areas near the boundary in these elements. It is established that when welding is performed with wires in the system Mg-Al-Zn-Mn, the distribution of alloying elements in the fusion zone is such that no change in the composition of the wire can cause a reduction in hot shortness (A = 0.3 mm/min).

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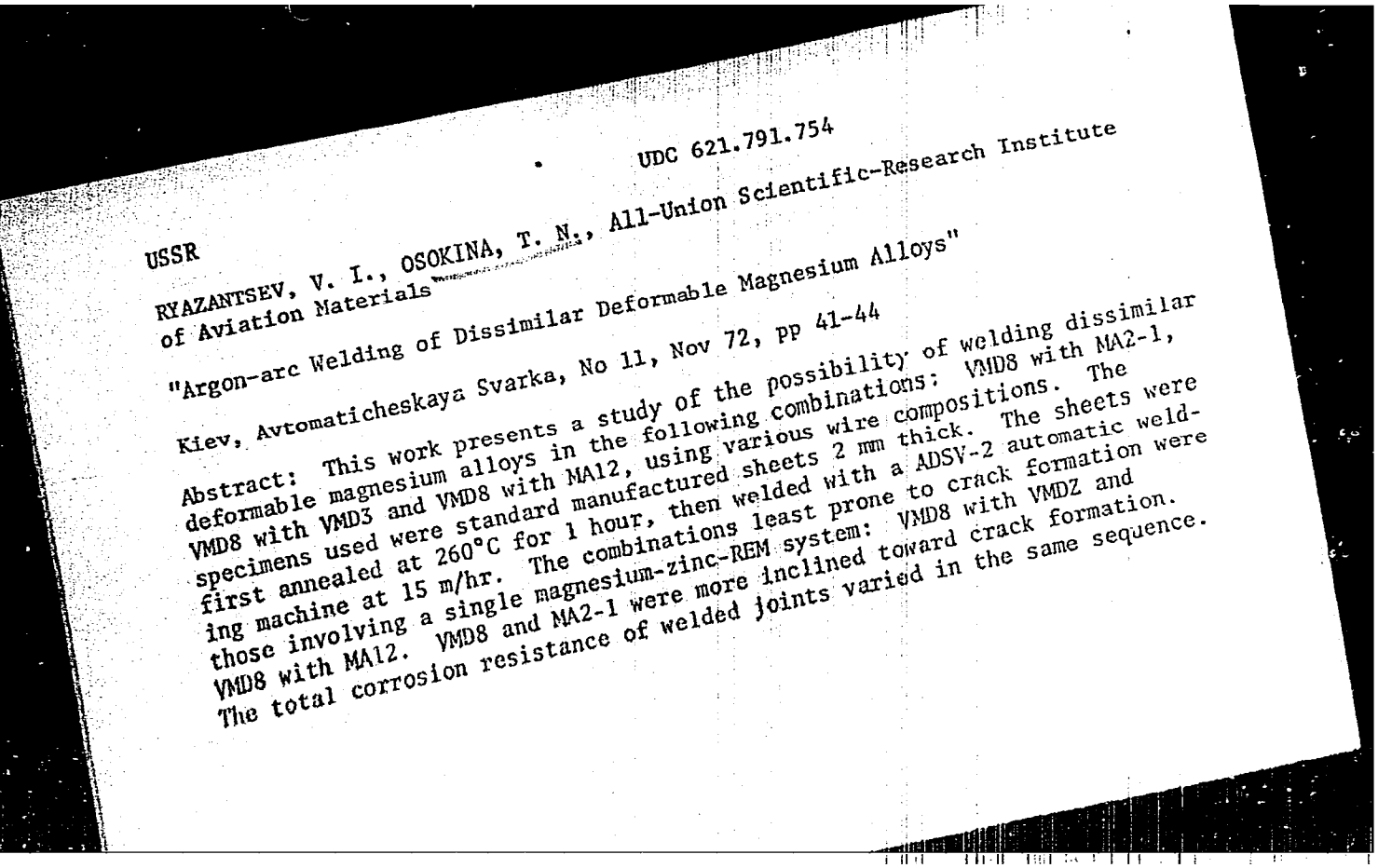
USSR

RYAZANTSEV, V. I., PUGACHEV, A. I., SMIRNOVA, Ye. I., BLYABLIN, A. A., KUDISHINA, T. A., OSOKINA, T. N., Moscow, Svarochnoye Proizvodstvo No 10, Oct 72, pp 8-10.

For welding wire in the Mg-Zn-Zr-Ce system, an increase in Ce content to 3.7% or more causes a sharp increase in diffusion penetration of this element from the seam into the surrounding zone, significantly increasing resistance to the formation of hot cracks (A $\geq$ 0.6 mm/min).

2/2



UDC 621.791.754

USSR

RYAZANTSEV, V. I., OSOKINA, T. N., All-Union Scientific-Research Institute of Aviation Materials

"Argon-arc Welding of Dissimilar Deformable Magnesium Alloys"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 72, pp 41-44

Abstract: This work presents a study of the possibility of welding dissimilar deformable magnesium alloys in the following combinations: VMD8 with MA2-1, VMD8 with VMD3 and VMD8 with MA12, using various wire compositions. The specimens used were standard manufactured sheets 2 mm thick. The sheets were first annealed at 260°C for 1 hour, then welded with a ADSV-2 automatic welding machine at 15 m/hr. The combinations least prone to crack formation were those involving a single magnesium-zinc-REM system: VMD8 with VMDZ and VMD8 with MA12. VMD8 and MA2-1 were more inclined toward crack formation. The total corrosion resistance of welded joints varied in the same sequence.

USSR

UDC 621.791.042:669.721.5

RYAZANTSEV, V. I., SMIRNOVA, YE. I., and OSOKINA, T. N., All-Union Scientific Research Institute of Aviation Materials

"Effect of Filler Wire Composition on the Microchemical Heterogeneity and Some Properties of Magnesium Alloy Joints"

Kiev, Avtomaticheskaya Svarka, No 10, Oct 72, pp 9-12

Abstract: A study was made of the chemical heterogeneity of magnesium alloy weld joints where alloying was accomplished using magnesium-base filler wires with an average composition of the alloying elements of 1.5% Zn, 7% Al, and 0.3% Mn and the base metal containing an average composition of 1.3% Zn, 0.03% Zr, and 0.22% mischmetal. Prior to welding, the alloy sheet was annealed at 260°C for one hour. Welding was done using an ADSV-2 automatic unit with an IPK-350 power source with four different threshold energy values. Microheterogeneity was studied using local x-ray spectral analysis on an MAR-1 unit. When using fillers of the Mg-Zn-Zr-Ce mischmetal system, the microchemical heterogeneity in the fusion zone emerges as a result of diffusion redistribution of cerium from the seam into the heat-affected zone; when using fillers of the Mg-Al-Zn-Mg the microchemical heterogeneity emerges as a result of diffusion penetration of zinc from the heat-affected zone into the seam. From the action of the

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UDC 621.791.019

USSR

ANTONOV, Ye. G., POPOV, A. S., YAKUSHIN, B. F., OSOKINA, T. N., MIKHEYEV, I. M., SMIRNOVA, Ye. I., SHPAGIN, B. V., and NIKOLAYEVA, V. S., Moscow

"Metallurgical Action on Seam Strength in Magnesium Alloy Welding"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 71, pp 53-55

Abstract: The problem considered in this paper is the metallurgical means that can be used to deal with cracks in magnesium alloy welds, specifically magnesium alloyed with zinc, and the efficiency of the means. Melts of the VMD3 series and several magnesium-zinc melts were the subjects of the experimentation; the defect of the first class of alloys is the tendency of its welds to develop heat cracks caused by the change in the lanthanum content. It was assumed in these tests that the introduction of rare earth metals into the alloys would improve their resistance to the formation of cracks since magnesium forms eutectics with these metals. A conclusion reached by the authors is that one cause of cracks forming in the welds that did not contain zirconium is the large crystalline structure of the weld metal, and that the resistance of the weld to cracks could be improved by the addition of 0.55% Zr.

1/1

USSR

RYAZANTSEV, V. I., et al., Avtomaticheskaya Svarka, No 10, Oct 72, pp 9-12

thermal welding cycle there is observed in the heat-affected zone -- independent of filler wire composition -- diffusion enrichment of the fusion boundaries by cerium and a decrease of its content in the boundary sections of the grain, as well as decomposition of the solid solution in the grain body, being accompanied by precipitation of phases rich with zinc. Microchemical heterogeneity for zinc amounted to approximately 1000%. The impact strength of weld joints made using fillers with cerium mischmetal was 2-3 times less and the bend angle 15-20% less than when using fillers of the Mg-Al-Zn-Mn system for an almost identical strength. 5 figures, 2 tables, 12 bibliographic references.

2/2

USSR UDC 621.791.011.001.5:669.721 + 669.5

ANTONOV, YE. G., Engineer, POPOV, A. S., Engineer, YAKUSHIN, B. F., Candidate of Technical Sciences, OSOKINA, T. N., Engineer, NIKOLAYEVA, V. S., Technician, MIKHEYEV, I. M., Engineer, SMIRNOVA, YE. I., Engineer, SHPAGIN, B. V., Engineer, and BABADZHANOVA, I. S., Engineer

"Effect of Rare-earth Elements on the Weldability of Magnesium-Zinc and Magnesium-Zinc-Zirconium Alloys"

Moscow, Svarochnoye Proizvodstvo, No 12, Dec 70, pp 6-8

Abstract: The effect of some rare-earth metals on the weldability of magnesium-zinc and magnesium-zinc-zirconium alloys was studied in experimental melts. Sheets of the alloys, 2 mm thick, were obtained by rolling on a "Duo" laboratory mill from flat ingots cast in metal molds. Before rolling, the ingots were heated to 380-400° C (11 intermediate heats, 2-3 passes). Shrinkage was 15-25 percent. After rolling, the sheets were annealed at 260° C for an hour. The filler wire was made of the same material. The results indicate that rare-earth metals (neodymium,

1/2

USSR

ANTONOV, YE. G., et al., Svarochnoye Proizvodstvo, No 12, Dec 70, pp 6-8

lanthanum, mischmetal) at the rate of up to 0.6 percent by weight affect the hot-shortness of the studied alloys in different ways during welding. The most probable reason for this is the varying effect of rare-earth metals on the plasticity of the studied alloys in the region of the lower limit of the brittle temperature range, as well as the varying effect on the magnitude of the latter. The weld cracking resistance of the alloys can be increased by alloy additions of lanthanum and cerium mischmetal and the use of filler wire (2 percent Zn, 0.45 percent Zr, 3.44 percent cerium mischmetal, the rest Mg).

2/2

USSR

UDC 621.791.052:539.377

PROKHOROV, N. N., Doctor of Technical Sciences, OSOKIN, V. N., Engineer, and PROKHOROV, N. N., Candidate of Technical Sciences

"Distribution of Plastic Deformation in Welds"

Moscow, Svarochnoye Proizvodstvo, No 8, Aug 70, pp 11-12

Abstract: The distribution of plastic deformation in welds considerably affects their technological properties and strength in service. Nonuniform distribution of plastic deformation is reflected on a macroscopic and microscopic scale. The macroscopic distribution field of plastic deformations differs in various metals. Internal deformation in the weld-affected zone in bead-forming on the edge of plates is a composite function of their width. In the heating stage the internal deformation values increase with the width of the plates. The observed displacement bands occur in the heating stage of the weld-affected zone due to compressive stresses. Concentration of deformations both at the grain boundaries (intergranular slip) and within the grains drops monotonically on withdrawal from the fusion zone toward the parent metal. A significant change in the microrelief is observed only within this region.

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USSR

UDC 669.71.053.4(088.8)

BAZHENOV, A. YE., GRECHUKHIN, N. V., OSOKINA, V. K., PAL'CHIKOVA, A. I., PAL'CHIKOVA, T. A., TARASOV, I. A., FEDORISOV, V. D., CHALIK, A. D., CHERNOV, V. Ye

"Method of Obtaining Cryolite"

USSR Author's Certificate No 312834, filed 3 Mar 70, published 15 Oct 71 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G179P)

Translation: The procedure for obtaining cryolite by roasting the slurry at 700-800° formed as a result of wet removal of the gases in aluminum production is distinguished by the fact that in order to improve the quality of the product, the roasted slurry is subjected to water treatment at 35-40° with a L:S ratio of 5-10: 1 with subsequent leaching out of the precipitate by a 2-10% solution of HF at 55-75° with a L:S ratio of 3-10:1. An example is presented.

1/1

USSR UDC 613 6

OSOROV, S. , Kirgiz Republic Council of Trade Unions (B. Saliyeva, Chairman)

"The Incidence of Toxoplasmosis Among Workers in the Meat and Dairy Industry in the Kirgiz SSR"

Frunze, Sovetskoye Zdravookhraneniye Kirgizii, No 5, Sep/Oct 71, pp 30-34

Abstract: The incidence of toxoplasmosis is higher among workers in the meat and dairy industry than in the general population of the Kirgiz SSR. Allergy skin (intradermal) tests for Toxoplasma were made on 323 female and 143 male workers between the ages of 17 and 60. Positive reactions occurred in 24.6 percent. It was found that workers in meat combines had a higher overall incidence of infection than in dairy combines, with the highest incidence occurring among workers in slaughterhouses and primary processing shops. This is attributed to cuts sustained while handling diseased cattle and freshly slaughtered meat. No definite relationship has yet been established between incidence of infection and sex, although some authors maintain that there is a higher incidence among women. Toxoplasma infection does seem to increase with age (most victims were 30-45 years old) and tenure.

1/1

USSR

UDC 669.71.053.4

KACHANOVSKAYA, I. S., SIRAYEV, N. S., OSOVIK, V. I.

"Developments of Requirements for Phase and Granulometric Composition of Alumina for Electrolysis of Aluminum"

Tr. Vses. N-i. i Proyektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 71, pp. 37-44. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G144 by the authors).

Translation: Requirements are formulated for Al_2O_3 for electrolysis of Al. Although inferior to domestic grades of Al_2O_3 in its aeration properties, the Al_2O_3 of the recommended composition does not powder, pours well, is more easily washed to remove Na_2O, and causes no difficulties upon dissolution in the cryolite. Its application in electrolysis allows the consumption of F salts and Al_2O_3 to be reduced and improve the conditions of labor in electrolysis buildings. 2 figs; 1 table.

1/1

JPRS 59268
6-73

4

VI-7. RADIAL DISTRIBUTION OF THE ADMIXTURE IN SILICON CRYSTALS GROWN IN AN ASYMMETRIC THERMAL FIELD

[Article by M. I. Osovskiy, K. N. Neymark, E. S. Fal'kevich, B. A. Sakharov, Zaporozh'ye; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 79]

An experimental study was made of the radial distribution of phosphorus admixture in silicon single crystals grown in an asymmetric thermal field. It was established that with an increase in the asymmetry of the thermal field, the radial homogeniety of the phosphorus distribution becomes sharply worse.

An analysis was performed of the observed phenomenon, and it was established that it is connected with the "melting effect" of the crystal. The function was obtained which relates the rate of rotation and growth of the crystal to the magnitude of the asymmetry of the thermal field. The selection of the growth parameters of the crystal in accordance with the obtained function permits exclusion of the exhibition of the effect of melting and significant improvement of the radial distribution of the admixture.

OSOVSKIY, M.I.

OSOVSKIY M. I.

JPRS 59908
6-73

VIII-4. EXTERNAL SHAPE OF THE DISLOCATION AND DISLOCATIONLESS SINGLE CRYSTALS DURING GROWTH FROM A MELT

[Article by V. E. Bove, M. I. Osovskiy, K. N. Neymark, E. S. Fal'kevich, Zamorozhye: Novosibirsk, III Simpozium po Problemam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 104]

A theoretical analysis is made of the effect of the growth conditions on the shape of dislocation and dislocationless single crystals. It is demonstrated that the dislocationless crystals grown under identical conditions must have broader "prism" faces and greater diameter than crystals with dislocations. These differences must increase with a decrease in the radial temperature gradient. The relations obtained were experimentally confirmed when growing single silicon crystals.

- 108 -

3

UDC 621.315.592(088.8)

USSR

KISELEV, A. M., LEZHEBOKOV, I. I., NAROYCHIK, S. S., NIKOLAYEV, A. A., OSOVSKIY, M. O., SELIVANOV, P. YA., SHKLYAREVSKIY, V. K.

"Procedure for Automatic Regulation of the Process of Noncrucible Zone Melting"

USSR Author's Certificate No 276016, Filed 24 May 68, Published 6 Oct 70 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G430)

Translation: A procedure is introduced for automatic regulation of the process of noncrucible zone melting by keeping the ingot diameter constant by means of a signal received as a result of measuring the effect of the projection of the zone on a photoreceiver for controlling the ingot diameter. To improve accuracy of regulation, a profile of the zone located directly on the crystallization front is projected on the photoreceiver for controlling the diameter of the ingot by means of a crystallization-front tracking system.

1/1

UNCLASSIFIED PROCESSING DATE--20NOV70

1/2 CCS

TITLE--AMPERECMETRIC TITRATION OF THALLIUM USING UNITHIOL -U-

AUTHOR-(03)-SUNGINA, G.A., OSPANOV, KH.K., KITAYGORODSKAYA, V.YA.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 482-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AMPERECMETRIC TITRATION, THALLIUM, THIOL, CHEMICAL REDUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0075/70/025/003/0482/0484

PROXY REEL/FRAME--3002/1126

CIRC ACCESSION NO--AP0126553

UNCLASSIFIED

CIRC ACCESSION NO--AP0128553

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION OF TL(III) AND TL(I) WITH UNITHIOL WAS STUDIED BY AMPEROMETRIC TITRN. TL(III) IS REDUCED TO TL(I) WITH UNITHIOL. THE MOLAR RATIO TL(III)-UNITIOL AT THE END POINT IS 1:1. THE EFFECT OF SOLN. ACIDITY AND VARIOUS ADMIXTS. OF TL DETN. WAS EXAMD. ZN, CD, BI, AND CU DO NOT INTERFERE IN THE DETN. OF TL; TE AND SE DO. THE SENSITIVITY OF THE DETN. IS 1 MUG TL PER ML. DISSOLVE 0.5-2.0 G SAMPLE IN 15 ML HCL AND EVAP. TO DRYNESS. TE AND SE VOLATILE AS CHLORIDES. ADD 10 ML HNO SUB3 AND EVAP. AGAIN, ADD 10 ML 1:1 H SUB2 SO SUB4 AND EVAP. TO SO SUB3 FUMES. DIL. WITH H SUB2 O TO 25 ML AND OXIDIZE TL(I) TO TI(III) BY THE ADDN. OF A FEW DROPS OF KMNO SUB4. FILTER AND DIL. TO 50 ML WITH H SUB2 O. DIL. AN ALIQUOT WITH 2N H SUB2 SO SUB4 TO 25 ML AND TITRATE WITH 0.003MU UNITHIOL POTENTIOMETRICALLY AT PLUS 1.0 V. FACILITY: KAZ. STATE UNIV., ALMA-ATA, USSR.

USSR

UDC 512.25/.26+519.3.330.115

OSPANOV, S. S.

"The Theorems of Mutuality in Problems of Linear Programming"

Mat. Vopr. Formir. Ekon. Modeley [Mathematical Problems of Formation of Economic Models -- Collection of Works], Novosibirsk, 1970, pp 124-129 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V540).

No Abstract.

1/1

USSR UDC 51.330.115

OSPANOV, S. S.

"Multi-criterion Problem of Linear Programming"

Mat. Vopr. Formir. Ekon. Modeley [Mathematical Problems of Formation of Economic Models -- Collection of Works], Novosibirsk, 1970, pp 118-123 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V525).

No Abstract.

1/1

UDC 51

USSR

OSPANOV, S. S.

"Simplex-Sectioning Method for the Linear Integral Problem"

V sb. Materialy Nauch. itog. godich. konf. prof.-prepodavat. sostava, posvyats. XXIV s'yezdu KPSS. Kazakhsk. un-t (Materials of the Summary Annual Scientific Conference of the Professorial and Teaching Staff Devoted to the 24th Congress of the CPSU of the Kazakh University), Alma-Ata, 1971, pp 188-189 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V497)

Translation: A sectioning algorithm is proposed for solving the problem of integral linear programming. In the algorithm both the direct and reciprocal simplex method is used which makes it similar to the Glover approach (RZh-Matematika, 1969, 4V401). No grounds are presented for convergence of the algorithm.

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UDC 528.242

USSR

PELLINEN, L.P., OSTACH, O.M., and ORLOVA, YE.M.

"Some Results of Gravimetric-Astronomical Leveling in USSR"

Moscow, Geodeziya i Kartografiya, No 6, 1972, pp 4-8

Abstract: The gravimetric-astronomical leveling method, developed by M.S. Molodenskiy in the thirties, has found a wide application in the USSR. In comparison with the astronomical leveling, by this method, using a system of polygons with 2,000-4,000 km perimeters and by given quasigeoid height, the distance between astronomical points can be essentially increased. The determination of errors of the increment of quasigeoid heights is analyzed. A comparison of gravimetric and geodetic-astronomical plumb line deviations showed for the most part of the USSR territory errors of ±0".5 and of up to ±1".2 in mountaneous regions. A new simplified calculation method of quasigeoid increments described by one of the authors (Ostach, O.M., Referativnyy Sbornik, Central Scientific Research Institute, Aerial Surveying and Cartography, No 6, 1970) is indicated. The mean square errors of quasigeoid heights at various network points of the polygon, relative to the initial points and with accounting for leveling and other errors, did not exceed ±2 m for the most part of the USSR territory and ±6 m in the most distant regions. The quasigeoid heights were interpolated inside each polygon by means of gravimetric heights electronically computed by integration in the 1,000-2,000 km zone. The arised errors by this additional operation did not exceed ±1.5 m. One illustr. five formulas, eleven biblio. refs.

1/2

UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 021

TITLE--MOSSBAUER EFFECT IN THE FES SUB1 PLUS X SYSTEM -U-

AUTHOR--GONCHAROV, G.N., OSTANEVICH, YU.M., TOMILOV, S.B., CSER, L.

COUNTRY OF INFO--USSR

SOURCE--PHYSICA STATUS SOLIDI, 1970, VOL 37, NR 1, PP 141-150

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--IRON, METAL PHASE TRANSITION, MODEL, MOSSBAUER EFFECT, IRON SULFIDE, CHEMICAL BONDING, CRYSTAL VACANCY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0636 STEP NO--GE/0030/70/037/001/0141/0150

CIRC ACCESSION NO--AP0107233

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107233

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY WAS MADE OF THE COMPOSITION DEPENDENCE OF THE MOSSBAUER EFFECT IN THE FES SUB1 PLUS X SYSTEM IN THE RANGE 0 SMALLER THAN OR EQUAL TO 0.135 AT ROOM TEMPERATURE. THE OBSERVED CHANGES OF THE MOSSBAUER PARAMETERS ARE ATTRIBUTED TO PHASE TRANSITIONS AND RELATED TO THE VARIATION OF THE CONCENTRATION OF IRON VACANCIES WITH COMPOSITION. THE MEASURED VALUE OF THE QUADRUPOLE SPLITTING IS IN GOOD AGREEMENT WITH THE PREDICTION FROM THE POINT CHARGE MODEL. THE PRESENCE OF FE PRIME3 COULD NOT BE INFERRED FROM ANY OBSERVATION IN THE STUDIED RANGE OF CONCENTRATION. THE OBSERVED INFLUENCE OF IRON VACANCIES INDICATES A STRONG SUPEREXCHANGE WHICH CAN BE HELD RESPONSIBLE FOR THE FERROMAGNETIC BOND OF IRON SPINS IN THE C PLANE. A SHORT RANGE ORDER OF VACANCIES IS SUGGESTED FOR THE EXPLANATION OF THE OBSERVED COMPOSITION DEPENDENCE OF THE PHASE TRANSITIONS.

UNCLASSIFIED

USSR UDC 669.71.053.24

OSTANIN, YU. D., KISELEV, V. P., DRESVIN, S. V., PARKHOMENKO, A. S.

"Study of the Power Characteristics of a Plasmatron and Determination of Certain Parameters of the Argon Plasma Arc"

Tr. Vses. N-i. i Proyektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, no. 71, pp 201-207. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G129 by the authors).

Translation: The energetic characteristics of a plasmatron suggested for the performance of technological processes involved in thermal methods of the production and refining of Al are studied. The basic parameters of the argon plasma arc are determined: arc temperature 11,000-14,000°K, heat flux $(1.29\text{-}3.62)\cdot10^4$ w/cm^2. 5 figs; 1 table.

1/1

OSTANINA, K.V.

SPRS 5930
6-73

III-4. THERMAL AND DIFFUSION SUPERCOOLING OF A MELT AND ITS RELATION TO THE GROWTH PROCESSES

[Article by G. V. Nikitina, K. V. Ostanina, V. N. Romanenko, V. S. Sheptets, Leningrad; Novosibirsk, III Simpozium po Protsessam Rosta i Svoystv Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June, 1972, p 281]

Directional crystallization is accompanied by the occurrence of a temperature gradient and a concentration gradient in front of the growth front. The magnitude of both gradients is connected with the growth rate of the crystal and the magnitude of the external temperature gradient in the device. At high concentrations of the admixture, the exceeding of a critical value of the growth rate leads to the occurrence of diffusion or concentration supercooling of the melt in the crystal. In the solid phase concentration inhomogeneities are observed in this case. It was demonstrated previously [1] that the value of k_e essentially depends on the concentration. Experimental data are presented on the growth of the crystals of the bismuth-antimony system confirming these calculations. However, for low concentrations of the admixture, the usual theory of diffusion supercooling gives an increase in the value of the critical growth rate. In this paper it was demonstrated that in this case it is necessary to consider two new factors: diffusion supercooling which occurs on crystallization of complex compounds as a result of deviation of the composition from stoichiometry (in this case the excess component plays the role of the admixture) and the occurrence of thermal supercooling of the melt. It occurs as a result of the fact that as increased growth rates, the amount of heat which must be removed deep in the melt increases sharply. On occurrence of this effect, structural defects appear in the growing solid phase. The theoretical principles of this effect were developed. They permit calculation of the magnitude of the critical growth rate for the effect of thermal supercooling. A comparison was made with the experiment. It confirmed the correctness of the calculations.

BIBLIOGRAPHY

1. G. V. Nikitina, V. N. Romanenko, TVKhT [Expansion Unknown], Vol 4, No 6, 939, 1970.

USSR

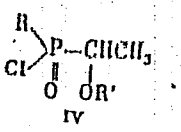
UDC 547.26'118+547.1926

GAZIZOV, M. B., SULTANOVA, D. B., RAZUMOV, A. I., OSTANINA, L. P., and GALYAUTDINOVA, A. A.

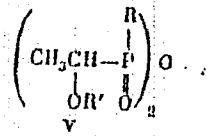
"Interaction of the Dichlorides of Trivalent Phosphorus with Acetic Anhydride in the Presence of α-Chloroethers"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, p 213

Abstract: Dialkylchloro phosphites react with the anhydrides of carboxylic acid (I) with the formation of α-ketophosphonic esters (M. B. Gazizov, et al., ZhOKh, No 39, 2600, 1969). The compounds (I) and the dichlorides of trivalent phosphorus (II) react slowly with each other at room temperature and more intensely at 50° with the formation of polymer products. However, in the presence of α-chloroethers (III) at 50° for 10 hours, the compounds (I) and (II) form the corresponding acid chlorides (IV) and anhydrides (V) of α-alkoxyethyl phosphonic and phosphonous acids.



IV



V

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USSR

GAZIZOV, M. B., et al., Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, p 213

The yields of the products (IV) and (V) depend strongly on the ratio of the intial compounds (I) and (II). Some physical-chemical properties of the compounds and the schematic for obtaining compound (IV) are presented.

2/2

USSR

UDC 547.26'118 + 547.292.6

GAZIZOV, M. B., SULTANOVA, D. B., RAZUMOV, A. I., YELNIKOVA, G. N., and OSTANINA, L. P., Kazan' Chemical-Technological Institute Imeni S. M. Kirov

"Reaction of Aryldichlorophosphines With Acetic Acid Acylals"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 2112-2113

Abstract: Aryldichlorophosphines react with equimolar quantities of acetic acid acylals at 50° yielding α-alkoxyethylarylphosphinic acid chlorides. The yields of these products can be improved by using excess chlorophosphine or running the reaction in presence of an equimolar quantity of α-chloroether.

1/1

USSR UDC 547.26'118 + 547.292.6

GAZIZOV, M. B., SULTANOVA, D. B., RAZUMOV, A. I., OSTANINA, L. P., SHAKIROV, I. Kh., ZYKOVA, T. V., and SALAKHUTDINOV, R. A., Kazan' Chemical-Technological Institute Imeni S. M. Kirov

"Reaction of Dialkyl Chlorophosphites With Acetic Acid Acylals"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 12, Dec 72, pp 2634-2638

Abstract: It was shown that alpha-chloroethers formed in the reaction of dialkyl chlorophosphites with acetic acid acylals undergo secondary reactions with dialkyl chlorophosphites forming ester-acid chlorides of α-alkoxyethylphosphonic acids. It was shown by IR spectroscopy that the ester-acid chlorides of α-alkoxyethylphosphonic acids exist in two conformations resulting from different orientation of the polar bonds P:O and C-O: conformation A with parallel (cis) or nearly parallel (gauche) orientation of P:O and C-O, and the conformation B with the antiparallel trans orientation of these bonds. Purification methods were proposed for α-chloroethers and dialkyl chlorophosphites by treatment with catechol chlorophosphite and with acetyl chloride respectively to remove the acetal and trialkyl phosphite impurities.

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USSR

UDC 547.26'118+547.2926

GAZIZOV, M. B., SULTANOVA, D. B., RAZUKOV, A. I., OSTAFIICHUK, L. P., Kazan'
Institute of Chemical Technology imeni S. M. Kirov

"Reaction of Alkyl Dichlorophosphites with Acetic Acid Acylals"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 7, Jul 72, p 1647

Abstract: It was found that carboxylic acid acylals (I) react with alkyl dichlorophosphites (II) to give α-alkoxyethylphosphonic acid ester chlorides and the corresponding pyrophosphonates. In this reaction the alkyl dichlorophosphites show electrophilic properties.

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UDC 547.26'118 + 547.222

USSR

GAZIVOV, M. B., SULTANOVA, D. B., RAZUMOV, A. I., OSTANINA, L. P., and RUSALKINA, A. M., Kazan' Chemico-Technological Institute imeni S. M. Kirov

"Reaction of Monochlorophosphites with α-Haloethers"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 11, Nov 1971, pp 2,575-2,576

Abstract: Dialkylchlorophosphines react with α-haloethers in a manner analogous to the first stage of the Arbuzov reaction. In this study the authors reacted such halides with equimolar amounts of dialkyl chlorophosphites, obtaining the corresponding α-alkoxyethylphosphonate ester chlorides. The reaction was analogous to the Arbuzov reaction. The structure of these products was verified from derivative neutral esters, infrared and paramagnetic resonance data, and elemental analysis for phosphorus and chlorine. Physical constants and structural formulas are given.

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USSR

UDC 547.26'118+547.29'26

GAZIZOV, M. B., SULTANOVA, D. B., OSTANINA, L. P., ZYKOVA, T. V., SALAKHUTDINOV, R. A., RAZUMOV, A. I., Kazan' Institute of Chemical Technology imeni S. M. Kirov

"Reaction of Monochlorophosphites With Acylals of Acetic Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2167-2171

Abstract: The mechanism of the reactions of aromatic chlorophosphites with α-alkoxyalkyl acetates was studied by physicochemical analysis of the high-boiling fraction of the reaction products. Heating o-phenylene- or o-benzoylene chlorophosphites with α-ethoxyethyl acetate at 50° gave α-ethoxyethylphosphonates which were identified by their IR, ESR, and NMR spectra. Analogous reactions of the cited cyclic chlorophosphites with α-chloroethyl ether or diethyl acetal gave the same products with a phosphonate structure. Thus, the cited reactions proceed by a stepwide mechanism leading to formation of phosphonate and not a phosphite structure. The reaction mechanism involving an intercyclic

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USSR

GAZIZOV, M. B., et al, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2167-2171

electron transfer is outlined. Analysis of the ESR spectrum of one of the products, 2-(α-ethoxyethyl)-2,4-dioxobenzo-1,3,2-dioxaphosphorene, revealed the existence of two stable conformational isomers of the compound, which differ in orientation of methyl protons in relation to the benzene ring and the oxygen of the carbonyl. The ESR spectra of the two compounds are shown and their physical constants are tabulated.

2/2

Acc. Nr.: AP0046866 Ref. Code: UR0122

USSR UDC 621.824.678.5.026.37:621.787.4

VELLER, V. A., Candidate of Technical Sciences, VENGARTEN, A. M., Candidate of Technical Sciences, GOMAN, G. M., Engineer, OSTANINA, V. A., Engineer

"Fatigue Strength Increase of Rolled Shafts by Polymer Coating"

Moscow, Vestnik Mashinostroyeniya, No 1, 1970, pp 13-15

Abstract: Experimental data are presented on fatigue tests conducted on carbon steel shafts from 30 to 165 mm in diameter with a press fit, in order to evaluate the increase in the fatigue limit produced by surface rolling and by application of a polymer coating. The results show that the fatigue strength increases 1.5-2 times, and that the effectiveness of rolling increases with shaft diameter. The surface strengthening by rolling is being currently applied to propeller shafts on all ships in construction.

1/3 18

Reel/Frame 19990182

The effect of rolling on prevention of crack formation is being substantially smaller than on tensile strength. The formation of surface defects due to fretting-corrosion at the location of press-fits was observed on the ordinary and rolled samples. A polymer coating of the surface at the location of a press fit is one of the very effective procedure for lowering corrosion. A combination of rolling with polymer coating is highly recommended for reducing the intensity of fretting-corrosion.

The metallographic study of samples at the location of a press fit shows, that at the same stress levels, the application of a polymer coating substantially delays the formation of surface defects, caused by the fretting-corrosion, and by the same way, increases the durability of the part. The efficiency of polymer coating is tentatively explained by separation of contact surfaces, by protection of metallic surfaces from air action; by reduction of the stress along the edges of a press-fitted bushing.

19790183

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AP0046866

It is concluded that 1) the fatigue strength at the location of press fits increases 1.5-2 times, by using the surface rolling; and 2) the use of polymer coatings on rolled shafts at the location of press fits ensures an increase in fatigue strength and durability, and at first the decrease in fretting corrosion intensity. Original article has 1 figure and 2 tables.

3/3

19790184

USSR

UDC 681.332.65

OSTANKOV, B. L.

"Code Converter"

USSR Author's Certificate No 275522, Filed 3/02/69, Published 15/10/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B225P)

Translation: There are well-known devices for conversion of binary code to BCD and back, containing shift registers consisting of static flip-flops and logic circuits. The device suggested differs in that the outputs of the flip-flops of the tetrad included in the static register are connected to the potential inputs of 4 groups of 5 tubes, the pulse outputs of which are connected to the inputs of the flip-flops of the same tetrad. This allows the reliability to be increased, decreases the conversion time, and simplifies the device. 1 fig.

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1/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--ACTIVITY AND PHASE COMPOSITION OF A CHROMIUM CALCIUM NICKEL PHOSPHATE CATALYST -U-

AUTHOR-(05)-IVASHINA, V.S., BUYANOV, R.A., OSTANKOVICH, A.A., OLENKOVA, I.P., KOTELNIKOV, G.R.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(1), 160-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST ACTIVITY, CATALYTIC DEHYDROGENATION, BUTENE, BUTADIENE, NICKEL, X RAY DIFFRACTION STUDY, THERMAL ANALYSIS, CHROMIUM, PHOSPHATE, CALCIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0528 STEP NO--UR/0195/70/011/001/0160/0165

CIRC ACCESSION NO--AP0119447

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119447

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE CATALYST WAS STUDIED BY USING X RAY DIFFRACTION, D.T.A., AND DIFFERENTIAL THERMOGRAPHY. THE CATALYST REPRESENTS A 1 PHASE SYSTEM OF NI PRIME2 POSITIVE AND CR PRIME2 POSITIVE SOLID SOLNS. IN A LATTICE OF CA PHOSPHATE. THIS SOLN. FORMS ON HEATING DURING CATALYST PREPN. THE CATALYTIC ACTIVITY OF THE CATALYST IN THE DEHYDROGENATION OF BUTENES TO BUTADIENE DEPENDS ON THE NI CATION CONCN. IN THE LATTICE OF THE CATALYST. CA PHOSPHATE SERVES AS THE CATALY CARRIER AND THE CA-CR COMPN. IS CATALYTICALLY INACTIVE.

UNCLASSIFIED

USSR

UDC: 616.28-008.1-057-02:613.644

OSTANKOVICH, V.YE., Doctor of Medical Sciences, PONOMAREVA, N.I. Candidate of Medical Sciences. Clinic of the Institute of Labor Hygiene and Occupational Diseases, AMN SSSR, Moscow

"The State of Hearing and Its Evaluation in Workers Exposed to Intense Industrial Noise and Vibrations"

Moscow, Klinicheskaya Meditsina, No 3, 1970, pp 79-83

Abstract: Audiological examination of 3,000 workers engaged in various noise-producing occupations showed that the clinical picture of hearing impairment is characterized by the same type of curve of audiometric data, regardless of the condition of the ear or of the noise parameters, or combined noise and local vibrations. The acuity of speech and hearing was determined by the degree of hearing impairment with the speech-frequency region, and by alteration of auditory sensitivity to high-frequency tones. The resulting complex of indices made it possible to distinguish five degrees of hearing impairment.

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USSR

UDC 621.365.82

DORONIN, V. G., and OSTAPChENKO, Ye. P.

"Necessary and Sufficient Conditions for the Formation of an Inversion in Gas Lasers"

Tr. Ryazan. Radiotekhn. in-ta (Proceedings of the Ryazan' Radiotechnical Institute, No 37, pp 18-27, RZh-Fizika, No 9, Sep 73, Abstract No 9D716

Translation: The conditions for the formation of a population inversion in a gas laser are examined with the aid of radiation in other channels of oscillation. The possibility of creating an inversion by optical pumping with oscillation or external radiation corresponding to transitions in these channels is demonstrated. Conditions are found under which additional gas has a positive effect on obtaining an inversion in a gas laser.

P.Sh.

1/1

USSR

UDC 621.365.82

DORONIN, V. G., and OSTAPChENKO, Ye. P.

"The Interaction of Modes in a Gas Laser"

Tr. Ryazan, Radiotekhn. in-ta (Proceedings of the Ryazan' Radiotechnical Institute, No 37, 1972, pp 11-18 RZh-Fizika, No 9, Sep 73, Abstract No 9D713

Translation: The interaction of axial modes of a gas laser is studied on the basis of the solution of the kinetic equation, taking into account the movement of atoms and their elastic collision. Conditions are found for the existence of various numbers of oscillating modes, and the effect of pressure and the coefficient of loss on their number is studied. P. Sh.

1/1

UDC 621.373:535

USSR

LEONT'YEV, V. G., OSTAPCHENKO, Ye. P., and SEDOV, G. S.

"Optimal Generating Conditions for a Helium-Neon Axial-TEM_{oo}-Mode Laser"

Leningrad, Optika i Spektroskopiya, Vol 32, No 4, April 72, pp 795-797

Abstract: The authors undertook to study optimal conditions for the excitation of a helium-neon axial-mode laser with a laser wavelength of 0.63 micron, as well as to find their relation to the parameter of resonator nonconfocality. The results indicate that the optimal excitation conditions differ from those for a multimode laser. The maximum total mixture pressure and pumping current correspond to a multimode condition, the minimum to an axial-mode laser with a strongly confocal resonator (L/R = 0.1). The optimal excitation conditions are related to the configuration of the resonator radiation field.

1/1

USSR UDC: 621.373:530.145.6

OSTAPCHENKO, Ye. P., STEPANOV, V. A.

"Emission Spectrum of Gas Lasers and Time Coherence"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronic Technology. Scientific and Technical Collection. Gas-Discharge Devices), 1970, vyp. 2(18), pp 16-19 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D267)

Translation: An expression is derived for the function of coherence of emission from gas lasers operating in the state of pure transverse modes with simultaneous emission of several lines. A brief analysis is given of time coherence for a simplified model of emission, and possibilities are pointed out for using the coherence function to derive information on the spectrum of generated frequencies.

1/1

USSR

ALYAKISHEV, S. A., BORISOVSKIY, S. P., MELEKHIN, G. B., OSTAPCHENKO, YE. P.

"Effect of the Discharge Parameters in Ne^{20} on the Magnitude of Laser Beam Absorption"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronic Engineering. Scientific and Technical Collection. Gas Discharge Devices), 1970, vyp. 1 (17), pp 27-36 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D381)

Translation: The energy absorption of a laser beam in the positive column of glow discharge of Ne^{20} with various discharge parameters is measured for the central frequency of the absorption line $2p_4$-$3s_2$ (λ = 0.6328 microns). The correspondence between the values of the total radiation energy absorption in the discharge gap and the absorption along its axis per unit length of discharge considering the divergence and nature of energy distribution in the transverse cross section of the laser beam and also the nature of distribution of absorption with respect to the radius of the discharge gap is established.

1/1

OSTAPENKO, A.L.

Social Hygiene & Health

FIFTIETH ANNIVERSARY OF SOVIET PUBLIC HEALTH IN PRIMORSKIY KRAY

UDC: 614.2(571.53)(091)

[Article by A.L. Ostapenko, Chair of Social Hygiene and Public Health Organization Chair, under the direction of Professor A.L. Ostapenko), Vladivostok Medical Institute; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 11, 1972, submitted 21 April 1972, pp 49-54]

The day of 25 October 1922 marked the complete liberation of Primor'ye from foreign interventionists, the end of the Civil War in our country. In the 50 years of Soviet power, Primor'ye has been transformed from a backward province of tsarist Russia into a flourishing area with a well-developed industry and agriculture. Major strides have been made in development of culture and science, public education, and public health.

Before the revolution public health in the Far East developed slower than in European Russia. This was due to its great distance from industrial and cultural centers of the country, the low level of development of local economy, the lack of zemstvo, and other causes. Here public health was split up and under many jurisdictions, private practice and magic healing flourished. In 1913 there were only 113 physicians and several hundred other medical workers on the territory of today's Primorskiy Kray [1]. In the cities and villages there were 33 hospitals with a total capacity of 1,188 beds, and eight feldshor centers [2].

During the years of the First World War, as well as the five-year struggle against the White Guard and foreign intervention, the public health service of Primor'ye underwent a sharp decline. Most typhoid and district rural hospitals were closed, there were no drugs, and in the seven existing hospitals there was a shortage of personnel, the feldsher centers were inactive [3].

The young Soviet government of Primor'ye was faced with the task of creating a new State system of public health based on the principles defined in the Party program adopted at the 8th Congress of the Russian Communist Party (of Bolsheviks) in 1919.

JPRS 57117
31 Jan 73

USSR

UDC 621.375.4:621.375.121

ZOLOTAREV, T. V., OSTAPENKO, G. S., PETROV, L. N., UDOVIK, A. P., ARAKCHEYEVA, I. A.

"Problem of the Effect of the Capacitances of an Integrated Transistor on the Pass Band"

Sb. tr. Voronezh. politekhn. in-ta (Collected Works of Voronezh Polytechnic Institute), 1969, vyp. 2, pp 104-110 (from RZh-Radiotekhnika, No 5, May 72, Abstract No 5D109)

Translation: A study is made of the effect of the capacitances of the junctions and substrates of an integrated transistor on the pass band of the high frequency active elements. It is demonstrated that the capacitance of the emitter junction and also the capacitance of the substrate must be calculated by the relation for sharp junctions. It is recommended that transistors with minimal p-n-junctions be selected as the optimal transistors for wide band integrated amplifiers or dielectric insulation of the components be used in place of them, which sharply reduces the stray capacitances. There are 2 illustrations and a 2-entry bibliography.

1/1

USSR

UDC 621.375.4.087.9.083.6

OSTAPENKO, G. S., ZOLOTAREV, T. V., PETROV, L. N., UDOVIK, A. N., ARAKCHEYEVA, I. A., TOROPOV, A. D.

"Instability Coefficients of the Feed Parameters of the Transistors of Monolithic Differential Amplifiers"

Sb. tr. Voronezh. politekhn. in-ta (Collected Works of the Voronezh Polytechnic Institute), 1969, vyp. 2, pp 127-135 (from RZh-Radiotekhnika, No 5, May 72, Abstract No 5D114)

Translation: A study is made of the parameters of monolithic transistors as a function of the parameters of their feed conditions. For the differential amplifier in the monolithic execution, relations are derived by means of which it is possible to define the instability coefficient of the feed parameters. It is demonstrated that these parameters are depicted most conveniently in the form of linear graphs. On the basis of the qualitative analysis of the instabilities, conditions were discovered under which the instability coefficient is minimal. There are 3 illustrations and a 4-entry bibliography.

1/1

USSR

UDC 621.375.018.756

ARAKCHEYEVA, I. A., DOMNIN, L. P., YEREMIN, S. A., NIKISHIN, V. I., OSTA-PENKO, G. S., PETROV, L. N., TKACHEV, A. I., UDOVIK, A. P.

"A Differential Amplifier"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 4, Feb 72, Author's Certificate No 326704, Division H, filed 19 Jan 70, published 19 Jan 72, p 208

Translation: This Author's Certificate introduces a differential amplifier which contains two emitter-followers, two amplification stages with dynamic load and a common source of direct current. As a distinguishing feature of the patent, the amplification factor is increased and the thermal compensation is improved by basing the dynamic load on a reverse conductivity transistor, and by connecting in each branch of the amplifier a transistor of the same conductivity as that of the amplification stage, and a diode biased in the forward direction. The emitter of the amplification stage is connected to the DC source and to the emitter of the transistor with the same conductivity. The base of this transistor is connected through a diode to the centertap of the supply source, and the collector is connected to the base of the dynamic load transistor.

1/1

USSR

UDC 621.372.54

KOZLOV, G. R. and OSTAPENKO, G. S.

"Analysis of RC-Filter Null Networks"

Kiev, Izvestiya VUZ--Radioelektronika, vol. 14, No. 7, 1971, pp 802-808

Abstract: This paper is part of the continuing search for an integrated circuit component to act as an inductance. Two generalized circuits of null R-C filters with selectivity characteristics and the graphs representing their respective topological pictures are considered. From the latter, the transfer factor and the input and output admittances are determined. Taking into account the nature of the resistances in those circuits, the authors analyze four R-C filter networks with similar structures. The parameters of these circuits are given in tabular form, and it is shown that two of them are best used for tuning devices of lower frequency than the other two. The authors conclude that asymmetrical filters are preferable in that they offer the best matching of input and output impedances for the proper resistor and capacitor distribution law.

1/1

USSR

UDC: 621.396.6-181.5

ZOLOTAREV, T. V., OSTAPENKO, G. S., PETROV, L. N., UDOVIK, A. P., ARAKCHEYEVA, I. A., NIKISHIN, V. I., and ALEKSENKO, A. G.

"Effect of Distributed Capacitance and Geometric Dimensions of Monolithic Circuit Resistors on Their Frequency Characteristics"

Kiev, Izvestiya VUZ--Radioelektronika, Vol. 13, No. 10, pp 1272-1275

Abstract: This brief communication deals with parasitic effects in integrated circuits manufactured by the planar-epitaxial process, with the elements separated by p-n junctions. The resistors in such a circuit are inserted by diffusion methods, and are thus especially subject to parasitic elements including a distributed transistor and distributed capacitances of p-n junctions. As proof, the cross section of an integrated circuit with its diffusion resistor is shown, and with it the equivalent circuit. From this circuit, the authors conclude that the frequency effect of the resistor is inversely proportional to the width of the resistor -- at least up to the practical limit of resistor width, which is about 10 μ. Nomograms are shown which can be used for determining the geometric dimensions and limiting frequency of the monolithic resistors from the known resistance values, or the reverse. A plot of the frequency characteristics of two monolithic resistors is also given.

1/2 037 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--CHEMICAL POTENTIAL OF A SOLID BODY UNDER CONDITIONS OF NONHYDROSTATIC PRESSURE AND PHASE EQUILIBRIUMS -U-
AUTHOR--OSTAPENKO, G.T.

COUNTRY OF INFO--USSR

SOURCE--GEOKHIMIYA 1970, (5), 575-87

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--MINERAL, HIGH PRESSURE EFFECT, SOLID STATE, PHASE EQUILIBRIUM, MATERIAL DEFORMATION, ELASTIC DEFORMATION, CHEMICAL REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0459 STEP NO--UR/0007/70/000/005/0575/0587

CIRC ACCESSION NO--AP0135922

UNCLASSIFIED

2/2 037 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0135922
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPRESSION OF THE CHEM. POTENTIAL OF AN ELASTICALLY DEFORMED SOLID BODY DEPENDS ON THE CONDITION WHETHER THE MASS EXCHANGE OCCURS AUTONOMOUSLY ON SOME SURFACE OF THE SOLID BODY OR SIMULTANEOUSLY AND IN PROPORTION ON ALL OF ITS SURFACES. FOR THE 1ST OF THESE CASES A FUNCTION IS PROPOSED ANALOGOUS TO GIBBS' FREE ENERGY. CONDITIONS OF THE DEFORMED SOLID BODY EQUIL. WITH THE FLUID, AS WELL AS POLYMORPHIC TRANSITIONS ARE BRIEFLY CONSIDERED. UNDER CONDITIONS OF AN NONEQUILATERAL COMPRESSION THE TEMP. OF POLYMORPHIC TRANSITION IS DETD. BY THE VALUE OF THE MAX. ONE OF 3 PRESSURES. FACILITY: ALL UNION SCI. RES. INST. MINER. RAW MATER. SYN., ALEKSANDROV, USSR.

USSR

UDC 539.385

GRINBERG, N. M., and OSTAPENKO, I. L., Physicotechnical Institute of Low Temperatures, Academy of Sciences UkrSSR, Khar'kov

"Fatigue Failure of a Two-Phase Titanium Alloy in Vacuum"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9, No 1, 1973, pp 25-28

Abstract: A study was made by electron-microscopy and electron fractional photography of the characteristics of failure at cyclic torsion in air and in vacuum [(1.5-4)·10^{-7} mm Hg] of a two-phase high-strength titanium alloy. The results of testing rolled and unrolled specimens are discussed by reference to photographs of their surfaces with slip lines after cyclic loading and microfractional photograms of their failure hearths. The plastic deformation of complex-alloyed titanium alloy with $\alpha + \beta$ structure is found to be accomplished only by means of sliding. Two figures, one table, nine bibliographic references.

1/1

USSR

UDC 669.295:620.163.4

GRINBERG, N. M., OSTAPENKO, I. L., and LYUBARSKIY, I. M., Physicotechnical Institute of Low Temperatures of the Academy of Sciences UkrSSR

"Topography of Fatigue Failure of a Two-Phase Titanium Alloy"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1972, pp 45-48

Abstract: An experimental investigation was made of some characteristics of fatigue failure of a titanium alloy with a two-phase $\alpha+\beta$ structure, alloyed with Al, Mo, V, Cr, and Fe, at temperatures from -140 to +150°C. Unlike the deformation of the single-phase alloy, the plastic deformation of the two-phase $\alpha+\beta$ -titanium alloy by cyclic loading takes place as the result of slipping without twinning. The propagation of macrocracks by cyclic twisting proceeds in three stages: initial stratification on gliding planes by the action of normal stresses, intermediate zone stratification together with significant plastic deformation by the action of shearing stresses, and the final stage of quasi-brittle failure from normal stresses. With increasing temperature from -140 to +150°C, the intermediate zone decreases and the area of the zone of final failure increases proportionally. The character of micro-failure in the zones does not change. The initial stages of the

USSR

GRINBERG, N. M., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1972, pp 45-48

process of fatigue failure before developing microcracks result in increased durability at low temperatures. Three figures, eight bibliographic references.

2/2

USSR UDC 533.69

LAPYGIN, V. I., and OSTAPENKO, N. A., Moscow

"Streamlining of the Leeward Side of a Conical Wing by a Supersonic Gas Flow"

Moscow, Izvestiya Akademii Nauk USSR, Mekhanika Zhidkosti i Gaza, No 1, Jan-Feb 73, pp 112-121

Abstract: The streamlining of the leeward side of a conical wing by a supersonic gas flow is investigated on a series of differently edged triangular wings, with a view to determine the forces acting on the wing and the qualitative changes in the flow structure. The investigation includes flows at symmetrical streamlining of the wing when its fore edges are supersonic and, therefore, the flow on windward and leeward sides of the wing can be determined independently. It is hitherto not clear which one of possible flow types is realized on the leeward side of a plane triangular wing. The introduction of the cross-sectional V-angle complicates the task by possible development of qualitatively new flow conditions.
1/2

USSR

LAPYGIN, V. I., and OSTAPENKO, N. A., Izvestiya Akademii Nauk USSR, Mekhanika Zhidkosti i Gaza, No 1, Jan-Feb 73, pp 112-121

For their determination was applied a previously described method (V.I.Lapygin, Ibid.:1971, No 3). The transition from shocked compression flow to underpressure flow and characteristic conditions of underpressure waves are discussed by reference to diagrams. The flowing off point at increasing wing angle of attack was found to leave the wing surface and to move into the flow along the symmetry axis. Fourteen figures, four formulas, eleven bibliographic references.

2/2

USSR

UDC 533.011.35

GONOR, A. L. and OSTAPENKO, N. A.

"Hypersonic Flow About Wings With a Mach System of Shock Waves"

Moscow, Izvestiya Akademii Nauk, SSSR, Mekhanika Zhidkosti i Gaza, No 3, 1972, pp 104-116

Abstract: A method is proposed for the calculation of hypersonic flow about a V-wing with a short-wave configuration of the Mach type, based upon use of the authors' theory of two approximations. By means of this theory it is possible to calculate the flow about a V-wing by a stream with a finite Mach number if this number is sufficiently great. It is shown that in the sense of optimal fineness, a V-wing is superior in a class of equivalent wings, and that the superiority of the fineness of a V-wing, in comparison with an equivalent flat triangular wing, increases as the value of the Parameter $\tau = V/S^{3/2}$ is increased. 10 figures. 5 references.

1/1

1/2 050 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--HYPERSONIC FLOW AROUND A DELTA WING OF FINITE THICKNESS -U-

AUTHOR-(02)-GONOR, A.L., OSTAPENKO, N.A.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA ZHIDKOSTI I GAZA, MAY-JUNE 1970, P. 46-55
DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HYPERSONIC FLOW, DELTA WING, SUPERSONIC AERODYNAMICS, SHOCK WAVE ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605009/B12 STEP NO--UR/0421/70/000/000/0046/0055

CIRC ACCESSION NO--AP0140049

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202320001-9"

2/2 050 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140049

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GENERALIZATION OF A METHOD, PREVIOUSLY DEVELOPED BY GONOR (1970) FOR CALCULATING HYPERSONIC FLOW AROUND THIN DELTA WINGS WITH SUPERSONIC LEADING EDGES, TO APPLY TO THE CASE OF DELTA WINGS OF FINITE THICKNESS WHERE THE FLOW HAS A QUALITATIVELY DIFFERENT STRUCTURE. IT IS SHOWN THAT THE EFFECT OF WING THICKNESS LEADS TO A NEW FLOW RUNOFF LINE WHICH IS NO LONGER COINCIDENT WITH THE SYMMETRY PLANE AS IN THE CASE OF SLENDER WINGS. SPECIFIC CALCULATIONS ARE PERFORMED FOR HYPERSONIC FLOW AROUND WINGS WITH A RHOMBOID CROSS SECTION. SHOCK WAVE SEPARATION CURVES ARE ILLUSTRATED FOR DIFFERENT VALUES OF INTERNAL TIP ANGLES GOVERNING THE WING THICKNESS.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--LOCAL EXCITON STATES IN A NAPHTHALENE CRYSTAL CONTAINING IMPURITIES -U-

AUTHOR-(02)-OSTAPENKO, N.I., SHPAK, M.T.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 552-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--EXCITON, ABSORPTION SPECTRUM, LUMINESCENCE SPECTRUM, NAPHTHALENE, SINGLE CRYSTAL, INDOLE, FURAN, SULFUR, CHEMICAL PURITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2022 STEP NO--UR/0048/70/034/003/0552/0556

CIRC ACCESSION NO--AP0125610

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 026

CIRC ACCESSION NO--AP0125610

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ABSORPTION AND LUMINESCENCE SPECTRA IN POLARIZED LIGHT WERE STUDED OF NAPHTHALENE SINGLE CRYSTALS CONTG. INDOLE, THIANAPHTHENE, OR BENZOFURAN, AT 4.2, 20.4, AND 77DEGREESK. EXCITON SERIES IN THE SPECTRA ARE DISCUSSED, I. E. THEIR VARIATION WITH TEMP. AND IMPURITY CONCN. (SMALLER THAN OR EQUAL TO 10PERCENT). FACILITY: INST. FIZ., KIEV, USSR.

UNCLASSIFIED

USSR

UDC 616-001.34-07:616.831-005-073.73

OSTAPENKO, O. I., and PYATAKOVICH, F. A., Regional Clinical Hospital No 1; Pedagogical Institute, Kemerovo

"The State of Cerebral Hemodynamics in Patients With Vibration Sickness According to Rheoencephalographic Data"

Moscow, Gigiyena Truda i Professial'nyye Zabolevaniya, No 2, 1972, pp 52-53

Abstract: The visual and quantitative analysis of data collected from patients with first, second, and clinical state of the disease indicated that all of them suffered with asymmetry of the cerebral hemispheres. This was evident from difference in the REG of the right and left carotid arteries, as well as from the time-related quantitative REG indicators of both hemispheres. All patients showed a decreased rheographic index, increased a interval, and a decreased inclination angle of the ascending section of the curve ($V_{max.}$) in comparison with control group (healthy individuals). Distortions in the configuration of REG curves indicated a decrease in the tonus of intracerebral vessels at the bases of both carotid arteries. A decrease of the rheographic index indicated that the volumetric fluctuations in the blood flow decreased. Changes related to the tonus of brain vessels were most visible within the F-F region of rheoencephalograph, which reflect the blood supply of the brain

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USSR

OSTAPENKO, O. I., and PYATAKOVICH, F. A., Gigiyena Truda i Professial'nyye Zabolevaniya, No 2, 1972, pp 52-53

front artery. This was manifested by frequent localized headaches in majority of patients. In about 40% of patients a decrease in the tonus of the vertebro-basilar system was observed. According to REG data structural changes in the blood vessel walls occurred as a result of work with vibrating mining machinery for many years (3-21 years).

2/2

USSR

UDC 510

OSTAPENKO, S. V.

"General Systems Theory and Cybernetics"

Filos. probl. suchasn. pryrodozn. Mizhvid. nauk. zb. (Philosophical Problems in Modern Natural Science. Interdepartmental Collection of Scientific Works), 1971, vyp. 24, pp 61-66 (Ukrainian; Russian summary) (from RZh-Matematika, No 2, Feb 72, Abstract No 2A10 from author's summary)

Translation: Cybernetics, unlike specific sciences, studies only those functions of different systems which involve the ability to store, process, and perceive information. It is very important for cybernetics to understand what a system is, how its description can be formalized, what purposes can be achieved by converting it to a new state. What general systems theory (GST) studies is the theory of any and all systems which are abstracted from their nature. GST undertakes to devise a mathematical logic apparatus for the study of any formations which represent systems and solves related methodological problems. To the extent that this is true, GST can be regarded as the theoretical basis of cybernetics.

CSO: 1863-W

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- END -

USSR

UDC: 533.697

GOLUBKOV, A. G., KOZ'MENKO, B. K., OSTAPENKO, V. A., SOLOTCHIN, A. V., Institute of Theoretical and Applied Mechanics Siberian Department of the Academy of Sciences of the USSR, Novosibirsk

"Concerning the Interaction Between an Underexpanded Supersonic Jet and a Flat Bounded Obstacle"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Tekhnicheskikh Nauk, No 13(208), vyp. 3, Oct 1972, pp 52-58

Abstract: The authors study certain kinds of interaction between a supersonic underexpanded jet and a flat bounded obstacle as a function of the gasdynamic parameters of the jet and the geometric characteristics of the jet-obstacle system. The conditions for transition from stationary to nonstationary flow around the obstacle are experimentally determined. The effect of the obstacle on displacement of the central compression shock is analyzed. Computer processing of experimental data by the method of least squares shows that the dimensions and location of zones of self-oscillations cease depending on the Mach number of the gas flow in the outlet section of the nozzle.

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USSR UDC 621.396.4(088.8)

POLISHCHUK, Ya. L., TIKHOMIROV, Ye. V., OSTAPENKO, V. A., DAVIDENKO, V. I.

"A Device for Eliminating and Introducing Communications Channels"

USSR Author's Certificate No 259188, Filed 19 Aug 68, Published 28 Apr 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10D416 P)

Translation: This Author's Certificate introduces a device for eliminating and adding IF communications channels in radio relay systems. The device contains an IF amplifier, a frequency and pulse-position modulator, a frequency-modulated oscillator and a synchronization module. To reduce transient interferences from channel to channel when pulse-position relative FM is used with elimination of the nonstationary processes which arise at the beginning and end of the temporarily added interval, keying stages are connected respectively between the IF power amplifier, the FM oscillator and the IF amplifier. The control circuits of these keying stages are connected to the outputs of the synchronizing module for coherent pedestal pulses, and the phase AFC circuit connected between the IF amplifier and the outputs of the synchronization module and FM oscillator is matched by actuation to time periods a little greater than the duration of the leading and trailing fronts of the blocking pedestal pulses. V. P.

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USSR

UDC 621.396.4(088.8)

POLISHCHUK, YA. L., VASSER, V. F., OSTAPENKO, V. A.

"Service Channel for an FM Radio Relay Communications Line"

USSR Author's Certificate No 253180, Filed 15 Jul 68, Published 24 Feb 70 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D318P)

Translation: This author's certificate introduces a service channel for an FM radio relay line containing a frequency detector, a pilot signal receiver, a pilot signal generator, a service channel modulator and a demodulator. In order to improve the frequency characteristic and decrease the cross noise, an assembly containing series-connected selectors of the pilot signal shape and a pilot signal harmonic separator is connected to the basic channel on the service channel side with simultaneous simplification of the equipment between the pilot signal generator, the modulator and the demodulator of the service channel.

1/1

1/2 009 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--CONVERTER STEELMAKING -U-

AUTHOR-(05)-BAKLAN, P.P., OSTAPENKO, V.D., STAKHNEVICH, V.L., GVOZDEV, A.I., PERESVETOV, S.N.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 263,623
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--10FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, STEEL MANUFACTURE PROCESS, SPONGE IRON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1824 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132089
UNCLASSIFIED

2/2 CCS UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0132089

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEEL IS MELTED BY USING CHARGES OF SMALLER THAN 30PERCENT HEAT ORE BRIQUETS AND SMALLER THAN OR EQUAL TO 40PERCENT SPONGE FE. FACILITY: GOSUDARSTVENNYY PROYEKTNO-IZYSKATEL'SKIY I TORFORAZVEDOCHNYY INSTITUT GIPROTORFRAZVEDKA.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--DETERMINATION OF THE OPERATING CHARACTERISTICS OF THE PILOT BEARINGS OF HYDROTURBINES -U-

AUTHOR-(05)-KVITNITSKIY, YE.I., POLTAVSKIY, YU.O., PRIKHODKO, O.B., TODOROV, A.D., OSTAPENKO, V.V.

COUNTRY OF INFO--USSR

SOURCE--LENINGRAD, ENERGOMASHINOSTROYENIYE, NO. 2, 1970, PP 10-11

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--HYDRAULIC EQUIPMENT, SLIDE BEARING, BIBLIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1640 STEP NO--UR/0114/70/000/002/0010/0011

CIRC ACCESSION NO--AP0120394

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--23OCT70

IPC ACCESSION NO--AP0120394

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THEORETICAL FUNDAMENTALS FOR HYDRODYNAMIC MULTIPLE BUSHING SLIDE BEARINGS ARE INVESTIGATED FOR THE CASE OF THEIR STATIC LOAD. SIMILAR BEARINGS ARE USED AS GUIDE SUPPORTS OF HYDRAULIC UNITS. CONCRETE RESULTS ARE PRESENTED FOR THE DESIGN OF THE PILOT BEARING OF A HYDROTURBINE, WHICH IS INSTALLED AT THE MAIN HYDROELECTRIC POWER STATION OF THE VAKHSHSKIY CASCADE.

UNCLASSIFIED

USSR

UDC: 621.373:530.145.6

BYKOVSKIY, V. F., GORELIK, A. V., KULIKOVA, T. A., KUKHMISTROV, V. S., OSTAPENKO, Ye. P., and SHEVCHENKO, Yu. N.

"Exciting Ion Lasers With an A-C Current of Industrial Frequency"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronic Engineering, Scientific-Technical Collection, Gas Discharge Devices) 1970, No. 3(19), pp 28-32 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3D251)

Translation: The possibility of exciting ionic lasers with an a-c current of industrial frequency is demonstrated. The peculiarities of their operation in single- and triple-phase excitation are investigated. Author's abstract

1/1

USSR UDC 669.14:620.178.7

OSTAPENKO, Zh. V., YUSHKEVICH, P. M., and GORYUCHKO, I. G.

"On the Impact Strength of 20K Carbon Sheet Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 5, Sep-Oct 70, pp 35-37

Abstract: An investigation was made to determine the causes for the scattering of impact strength values observed on certain hot-rolled 15-20 mm steel sheets. The results of X-ray and chemical investigations showed that the scattering is related to the macrochemical inhomogeneity of the steel, and also to the liquefaction of carbon, manganese, and silicon. It is shown that an increase in carbon, manganese, and silicon reduces the impact strength.

1/1

USSR UDC 577.475.(285)

OSTAPENYA, A. P., and GIGINYAK, YU. G. (Byelorussian State University imeni V. I. Lenin)

"Seasonal Changes in Caloric Value of Lake Plankton"

Minsk, Doklady Akademiyi Nauk BSSR, Vol 14, No 1, Jan 70, pp 77-79

Abstract: Plankton from five Byelorussian fresh water lakes was collected every month during all seasons of the year. Comparative tests were performed on plankton obtained during the warm season and those obtained during cold season. It was concluded that the caloric value of plankton, measured by dry weight is 10-50% higher in winter. The lipid content in the summer averages 9.33%; in winter the lipid content of plankton, is as high as 46% (in one instance - Diaptomus graciloides it was 51%). From these data it is evident that the accumulation of lipids by plankton during the cold season accounts for their increased caloric value in winter months.

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USSR UDC: 621.375.4(088.8)

MISHKOV, V. L., OSTAPETS, V. N.

"A Cascode Amplifier"

USSR Author's Certificate No 282435, filed 3 Apr 69, published 11 Dec 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D123 P)

Translation: A cascode amplifier is proposed which contains two triode tubes, the grid of the first being connected to the input signal source, while the plate of the second is connected through a load resistor to a terminal of the supply source. To extend the dynamic range, the cathode of the second tricde is connected to the collector of an NPN transistor whose base is connected to the centertap of a resistor divider connected between a terminal of the power supply and the plate of the first triode. The plate of the first triode is connected to the grid of the second triode and to the emitter of the above-mentioned transistor.

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USSR

UDC 546.65 + 547.26'118

OSTAPKEVICH, N. A., and TIKHOMIROVA, N. G., Leningrad Chemical-Pharmaceutical Institute, Chair of Inorganic Chemistry

"Dealkylation of Dialkylphosphorous Acids"

Ivanovo, Khimiya i Khimicheskaya Tekhnologiya, Vol 15, No 3, 1972, pp 455-456

Abstract: Kinetics of the dealkylation reaction of dialkylphospherous acids in presence of rare earth salts was studied. The dealkylation process is affected by temperature and the structure of the ether group radicals. At 120° in 10 min one ether group is completely split off in diethylphosphite, in dipropylphosphite - to the extent of 80%, and in case of dibutylphosphite - only by 47-60%. To increase the yield of neodinium monoalkylphosphites, the experiments were carried out at 120-160°. Rate constants and activation energies of the dealkylation reaction were determined at 50, 90, and 120°C.

1/1

USSR

UDC 546.65 + 547.26'.118

OSTAPKEVICH, N. A., and TIKHOMIROVA, N. G., Leningrad Chemical-Pharmaceutical Institute, Chair of Inorganic Chemistry

"Reaction of Neodinium Chloride With Dialkylphosphorous Acids"

Ivanovo, Khimiya i Khimicheskaya Tekhnologiya, Vol 15, No 3, 1972, pp 384-386

Abstract: A study was carried out on the complex formation of dialkylphosphorous acids (DPA) with rare earth elements (REE). It was established that at 20°C an equilibrium is reached in the system DPA:$NdCl_3$ in 90-95 minutes with a molar ratio 4:1. Infrared spectra of $NdCl_3$ solutions in DPA were studied. On the basis of the absence of characteristic absorption bands of DPA in saturated solutions of $NdCl_3$ in DPA and the shift of characteristic $\Delta\gamma P{=}O$ frequency towards lower wavelength the authors proposed that a complex has formed in the saturated solution with the formula $[(RO)_2P(O)H]_4 \cdot NdCl_3$.

USSR

UDC 546.65+547.26'118

TIKHOMIROVA, N. G., OSTAPKEVICH, N. A., Leningrad Chemico-Pharmaceutical Institute

"Synthesis of Monoalkyl Phosphites of Rare Earth Elements"

Leningrad, Zhurnal Obshchei Khimii, Vol 40, No 6, Jun 70, p 1422

Abstract: It was found that dialkyl phosphites are dealkylated by lanthanum and cerium chlorides. The products are crystalline substances which are poorly soluble in water and organic solvents. On heating to 480° no decomposition or melting is observed.

1/1

USSR

UDC 51:801

YEVSEYEV, A. I., OSTAPKO, V. T., and VOLKOVA, N. D.

"Study of the Informational Capability of Sound Groups in the Russian Language"

Tr. Mosk. energ. in-ta (Works of Moscow Power Engineering Institute), 1972, vyp. 82, pp 124-133 (from RZh-Matematika, No 5, May 72, Abstract No 5V591)

Translation: It is suggested that the phoneme alphabet of the Russian language be divided into seven sound groups according to the mode of phoneme formation and that in order to recognize a limited set of words an alphabet of sound groups be introduced in place of the phoneme alphabet.

The authors consider the possibility of unambiguous transition (decoding) from writing in an alphabet of seven sound groups to ordinary word-writing, given sufficiently large dictionary size, and quantitative evaluations are offered of the informational capability of the sound groups.

USSR

UDC: 51:801

YEVSEYEV, A. I., OSTAPKO, V. T., VOLKOVA, N. D.

"A study of the Information Content of Groups of Sounds in the Russian Language"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1972, vyp. 82, pp 124-133 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V591)

Translation: It is proposed that the alphabet of phonemes of the Russian language be broken down into seven groups of sounds in accordance with the means of producing the phonemes, and that the sound-group alphabet be used in place of the phoneme alphabet for recognition of a limited set of words.

The authors consider the possibility of a one-to-one transition (decoding) from a recording in the alphabet of seven groups of sounds to the conventional recording of words for a fairly extensive vocabulary and present quantitative estimates of the information content of the groups of sounds.

1/1

USSR

UDC 616.28-008.1-057:616-036.866

OSTAPKOVICH, V. Ye., Doctor of Medical Sciences, and PONOMAREVA, N. I., Candidate of Medical Sciences, Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow

"The Condition of Hearing in Riveters and Determination of Their Fitness for Work"

Kiev, Zhurnal Ushnykh, Nosovykh i Gorlovykh Bolezney, No 5, Sep/Oct 70, pp 24-28

Abstract: A study was made of hearing in 839 riveters with up to 30 years on the job and who were exposed to noise levels of 100 to 110 db. Changes in auditory sensitivity were directly related to the length of service, i.e., to the amount of exposure to noise. Hearing was normal in 68% of the subjects who had worked less than 5 years but in only 7% of those with 16 to 20 years on the job. Six degrees of hearing ability were determined, ranging from normal to severe impairment (advanced cochlear neuritis). Most of those suffering no more than mild impairment can continue to work, provided they are regularly examined. If cochlear neuritis with moderate impairment of hearing is noted during the first 5 years of work or in young persons after 5 to 10 years, transfer to other jobs is required. Those suffering from moderate

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USSR

OSTAPKOVICH, V. Ye., and PONOMAREVA, N. I., Zhurnal Ushnykh, Nosovykh i Gorlovykh Bolezney, No 5, Sep/Oct 70, pp 24-28

impairment of hearing combined with functional cardiovascular or neurological disturbances and those suffering from marked loss of hearing should also be retrained and assigned to other jobs.

2/2

USSR

UDC 612.858.76-006:613.644

OSTAPKOVICH, V. Ye., and KOROL', I. M., Institute of Work Hygiene and Occupational Diseases, Academy of Medical Sciences USSR, Moscow, and Department of Propathology, Municipal Clinical Hospital No 5, Minsk

"The Effect of Prolonged Industrial Noise and Vibration on the Vestibular Analysor"

Moscow, Vestnik Otorinolaringologii, No 2, Mar/Apr 73, pp 13-18

Abstract: Electronystagmography was used to investigate postrotational (Barany chair, 10 rotations per 20 sec) and postcaloric (perfusing the external auditory meatus with 100 ml of water at 10°C for 10 sec) nystagmus in 32 smiths daily exposed to pulsed noise of 110 db, 23 weavers regularly exposed to high frequency noise of 100 db and to general vibration, and 14 control subjects. Statistical analysis of the records showed that though the latent period was unchanged, the duration of the nystagmus and the speed of the slow phase were significantly reduced in smiths and weavers. Similarly, the amplitude was considerably diminished in both groups, especially in weavers in whom a marked reduction in the frequency was also observed. Thus, the data indicated that prolonged, intensive industrial noise depresses the excitability of the vestibular apparatus. The injury is magnified by the combined action of noise and vibration.

1/1